

**Synthetic Minor Determination and/or**  **Netting Determination**

Permit To Install **01-01343**

**Source Description:**

Cargill AgHorizons (Cargill) currently operates a grain processing facility located in Bloomingburg , Ohio. They have proposed to increase their maximum throughput capacity to 47.6 million bushels of grain to support the proposed fuel-grade ethanol production plant, ASA Bloomingburg, LLC. The ethanol facility is planning to be fully operational in 2007.

**Facility Emissions and Attainment Status:**

The facility will be a synthetic minor source with respect to both Title V permitting and PSD (this facility is considered to be one of the twenty-eight source categories, i.e. chemical processing plants because of the ethanol facility. Therefore emissions over 100 tons per year (TPY) of any criteria pollutant will trigger PSD review). Emissions from both the ethanol facility and the grain processing facility will limit all criteria pollutants to less than 100 TPY with all proposed operational restrictions of this permit and the permit for the ethanol plant (PTI 01-01306, issued on August 10, 2006).

The following table summarizes the total restricted emissions for criteria pollutants from both the ethanol facility and the grain processing facility combined:

<b>Pollutant</b>	<b>ASA Bloomingburg (PTI 01-01306), in TPY</b>	<b>Cargill (PTI 01-01343), in TPY</b>	<b>Total Facility TPY</b>
PE	68.65	29.88	98.53
PM10	61.84	11.89	73.73
SO2	83.4	0.04	83.44
NOx	91.95	6.43	98.38
CO	92.98	5.40	98.38
VOC	97.99	0.35	98.34

Fayette County is considered attainment for all criteria pollutants.

**Source Emissions:**

In order to keep the potential emissions of all criteria pollutants below 100 tpy, Cargill will do the following as required by this permit:

1. limit the maximum annual grain throughput for the facility to 47,616,7864 bushels (1,333,272 tons) based on a rolling, 12-month summation;
2. limit the type of fuel combusted in the grain dryers to natural gas only; and
3. limit the maximum annual fuel usage to 129 mmcf of natural gas.

**Conclusion:**

Cargill will operate as a synthetic minor facility based on the restrictions of grain throughput and natural gas usage. The annual emissions will be recorded as rolling, 12-month summation. The operational restrictions, record keeping, reporting and testing requirement will ensure that compliance with this permit is achieved and maintained and therefore avoiding being subject to either Title V and/or PSD permitting requirements.



State of Ohio Environmental Protection Agency

Street Address:

Lazarus Gov. Center  
122 S. Front Street  
Columbus, OH 43215

TELE: (614) 644-3020 FAX: (614) 644-2329

Mailing Address:

Lazarus Gov. Center  
P.O. Box 1049  
Columbus, OH 43216-1049

**RE: DRAFT PERMIT TO INSTALL**

**FAYETTE COUNTY**

**Application No: 01-01343**

**Fac ID: 0124000088**

**CERTIFIED MAIL**

	TOXIC REVIEW
	PSD
Y	SYNTHETIC MINOR
	CEMS
	MACT
Subpart DD	NSPS
	NESHAPS
	NETTING
	MAJOR NON-ATTAINMENT
Y	MODELING SUBMITTED
	GASOLINE DISPENSING FACILITY

**DATE:** 9/14/2006

Cargill AgHorizons  
David Link  
4201 State Road 238 NE  
Bloomington, OH 43106

You are hereby notified that the Ohio Environmental Protection Agency has made a draft action recommending that the Director issue a Permit to Install for the air contaminant source(s) [emissions unit(s)] shown on the enclosed draft permit. This draft action is not an authorization to begin construction or modification of your emissions unit(s). The purpose of this draft is to solicit public comments on the proposed installation. A public notice concerning the draft permit will appear in the Ohio EPA Weekly Review and the newspaper in the county where the facility will be located. Public comments will be accepted by the field office within 30 days of the date of publication in the newspaper. Any comments you have on the draft permit should be directed to the appropriate field office within the comment period. A copy of your comments should also be mailed to Robert Hodanbosi, Division of Air Pollution Control, Ohio EPA, P.O. Box 1049, Columbus, OH, 43266-0149.

A Permit to Install may be issued in proposed or final form based on the draft action, any written public comments received within 30 days of the public notice, or record of a public meeting if one is held. You will be notified in writing of a scheduled public meeting. Upon issuance of a final Permit to Install a fee of **\$2650** will be due. Please do not submit any payment now.

The Ohio EPA is urging companies to investigate pollution prevention and energy conservation. Not only will this reduce pollution and energy consumption, but it can also save you money. If you would like to learn ways you can save money while protecting the environment, please contact our Office of Pollution Prevention at (614) 644-3469. If you have any questions about this draft permit, please contact the field office where you submitted your application, or Mike Ahern, Field Operations & Permit Section at (614) 644-3631.

Sincerely,

Michael W. Ahern, Manager  
Permit Issuance and Data Management Section  
Division of Air Pollution Control

**PUBLIC NOTICE      PUBLIC HEARING**  
**OHIO ENVIRONMENTAL PROTECTION AGENCY**  
**ISSUANCE OF DRAFT ACTION**  
**OF AN AIR PERMIT TO INSTALL TO**  
**CARGILL AGHORIZONS**

Public notice is hereby given that the Ohio Environmental Protection Agency (EPA), Division of Air Pollution Control has issued, on September 14, 2006, a draft action of air Permit to Install (PTI) application No.01-01343 to Cargill AgHorizons. Cargill AgHorizons has applied for a modification of their existing air PTI in order to increase the throughput of their existing grain handling operations to allow the processing of 47 million bushels of grain per year at their Bloomingburg, Ohio facility. The facility is located at 420 State Route 238 NE, Bloomingburg, Ohio.

A public information meeting and public hearing on the draft air permit is scheduled for Thursday, November 2, 2006 at the Center for Economic Opportunity, 101 E. East Street, Washington Court House, Ohio. The public information session will commence at 6:30 p.m. and the hearing will follow immediately to accept comments on the draft permit. A presiding officer will be present and may limit oral testimony to ensure that all parties are heard.

All interested persons are entitled to attend or be represented and give written or oral comments on the draft permit at the hearing. Written comments must be received by the close of the business day on November 13, 2006. Comments received after this date will not be considered to be a part of the official record.

Written comments may be submitted at the hearing or sent to: Luke Mountjoy of the Division of Air Pollution Control, Central District Office of the Ohio Environmental Protection Agency, Lazarus Gov Center, P.O. Box 1049, Columbus 43216-1049. Comments may also be faxed to 614-728-3898.

Copies of the draft permit application and technical support information may be reviewed and/or copies made by first calling to make an appointment at the Division of Air Pollution Control, Central District Office of the Ohio Environmental Protection Agency, 122 South Front Street, Columbus, Ohio, 5th Floor, telephone number (614) 728-3778.



**Permit To Install  
Terms and Conditions**

**Issue Date: To be entered upon final issuance  
Effective Date: To be entered upon final issuance**

**DRAFT PERMIT TO INSTALL 01-01343**

Application Number: 01-01343  
Facility ID: 0124000088  
Permit Fee: **To be entered upon final issuance**  
Name of Facility: Cargill AgHorizons  
Person to Contact: David Link  
Address: 4201 State Road 238 NE  
Bloomington, OH 43106

Location of proposed air contaminant source(s) [emissions unit(s)]:  
**420 SR 238 NE, PO Box A  
Bloomington, Ohio**

Description of proposed emissions unit(s):  
**grain dryers; corn receiving, handling, storage and loadout; grain loading and unloading to truck;  
and corn storage pile**

The above named entity is hereby granted a Permit to Install for the above described emissions unit(s) pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this permit does not constitute expressed or implied approval or agreement that, if constructed or modified in accordance with the plans included in the application, the above described emissions unit(s) of environmental pollutants will operate in compliance with applicable State and Federal laws and regulations, and does not constitute expressed or implied assurance that if constructed or modified in accordance with those plans and specifications, the above described emissions unit(s) of pollutants will be granted the necessary permits to operate (air) or NPDES permits as applicable.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Director

## Part I - GENERAL TERMS AND CONDITIONS

### A. Permit to Install General Terms and Conditions

#### 1. Compliance Requirements

The emissions unit(s) identified in this Permit to Install shall remain in full compliance with all applicable State laws and regulations and the terms and conditions of this permit.

#### 2. Reporting Requirements

The permittee shall submit required reports in the following manner:

- a. Reports of any required monitoring and/or recordkeeping information shall be submitted to the appropriate Ohio EPA District Office or local air agency.
- b. Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (a) any deviations (excursions) from emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and recordkeeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the appropriate Ohio EPA District Office or local air agency. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

#### 3. Records Retention Requirements

Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include, but not be limited to, all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.

#### 4. Inspections and Information Requests

The Director of the Ohio EPA, or an authorized representative of the Director, may, subject to the safety requirements of the permittee and without undue delay, enter upon the premises of this source at any reasonable time for purposes of making inspections, conducting tests, examining records or reports pertaining to any emission of air contaminants, and determining compliance with any applicable State air pollution laws and

regulations and the terms and conditions of this permit. The permittee shall furnish to the Director of the Ohio EPA, or an authorized representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying, reopening or revoking this permit or to determine compliance with this permit. Upon verbal or written request, the permittee shall also furnish to the Director of the Ohio EPA, or an authorized representative of the Director, copies of records required to be kept by this permit.

#### **5. Scheduled Maintenance/Malfunction Reporting**

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction of any emissions units or any associated air pollution control system(s) shall be reported to the appropriate Ohio EPA District Office or local air agency in accordance with paragraph (B) of OAC rule 3745-15-06. Except as provided in that rule, any scheduled maintenance or malfunction necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emissions unit(s) that is (are) served by such control system(s).

#### **6. Permit Transfers**

Any transferee of this permit shall assume the responsibilities of the prior permit holder. The appropriate Ohio EPA District Office or local air agency must be notified in writing of any transfer of this permit.

#### **7. Air Pollution Nuisance**

The air contaminants emitted by the emissions units covered by this permit shall not cause a public nuisance, in violation of OAC rule 3745-15-07.

#### **8. Termination of Permit to Install**

This Permit to Install shall terminate within eighteen months of the effective date of the Permit to Install if the owner or operator has not undertaken a continuing program of installation or modification or has not entered into a binding contractual obligation to undertake and complete within a reasonable time a continuing program of installation or modification. This deadline may be extended by up to 12 months if application is made to the Director within a reasonable time before the termination date and the party shows good cause for any such extension.

#### **9. Construction of New Sources(s)**

The proposed emissions unit(s) shall be constructed in strict accordance with the plans and application submitted for this permit to the Director of the Ohio Environmental Protection Agency. There may be no deviation from the approved plans without the express, written approval of the Agency. Any deviations from the approved plans or the above conditions

may lead to such sanctions and penalties as provided under Ohio law. Approval of these plans does not constitute an assurance that the proposed facilities will operate in compliance with all Ohio laws and regulations. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed sources cannot meet the requirements of this permit or cannot meet applicable standards.

If the construction of the proposed emissions unit(s) has already begun or has been completed prior to the date the Director of the Environmental Protection Agency approves the permit application and plans, the approval does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the approved plans. The action of beginning and/or completing construction prior to obtaining the Director's approval constitutes a violation of OAC rule 3745-31-02. Furthermore, issuance of the Permit to Install does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Approval of the plans in any case is not to be construed as an approval of the facility as constructed and/or completed. Moreover, issuance of the Permit to Install is not to be construed as a waiver of any rights that the Ohio Environmental Protection Agency (or other persons) may have against the applicant for starting construction prior to the effective date of the permit. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed facilities cannot meet the requirements of this permit or cannot meet applicable standards.

#### **10. Public Disclosure**

The facility is hereby notified that this permit, and all agency records concerning the operation of this permitted source, are subject to public disclosure in accordance with OAC rule 3745-49-03.

#### **11. Applicability**

This Permit To Install is applicable only to the emissions unit(s) identified in the Permit To Install. Separate Permit To Install for the installation or modification of any other emissions unit(s) are required for any emissions unit for which a Permit To Install is required.

#### **12. Best Available Technology**

As specified in OAC Rule 3745-31-05, all new sources must employ Best Available Technology (BAT). Compliance with the terms and conditions of this permit will fulfill this requirement.

#### **13. Source Operation and Operating Permit Requirements After Completion of Construction**

This facility is permitted to operate each source described by this Permit to Install for a period of up to one year from the date the source commenced operation. This permission to operate is granted only if the facility complies with all requirements contained in this

permit and all applicable air pollution laws, regulations, and policies. Pursuant to OAC Chapter 3745-35, the permittee shall submit a complete operating permit application within ninety (90) days after commencing operation of the emissions unit(s) covered by this permit.

#### 14. Construction Compliance Certification

The applicant shall provide Ohio EPA with a written certification (see enclosed form) that the facility has been constructed in accordance with the Permit to Install application and the terms and conditions of the Permit to Install. The certification shall be provided to Ohio EPA upon completion of construction but prior to startup of the source.

#### 15. Fees

The permittee shall pay fees to the Director of the Ohio EPA in accordance with ORC section 3745.11 and OAC Chapter 3745-78. The permittee shall pay all applicable Permit to Install fees within 30 days after the issuance of this Permit to Install.

### B. Permit to Install Summary of Allowable Emissions

The following information summarizes the total allowable emissions, by pollutant, based on the individual allowable emissions of each air contaminant source identified in this permit.

SUMMARY (for informational purposes only)  
TOTAL PERMIT TO INSTALL ALLOWABLE EMISSIONS

<u>Pollutant</u>	<u>Tons Per Year</u>
PE	29.88
PM10	11.89
SO2	0.04
NOx	6.43
CO	5.40
VOC	0.35

**PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)****A. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
F005 - grain receiving, handling, transferring and conveying including dump pits, conveyors, elevators, and bins vented to two baghouses	ORC 3704.03(T)(4)	See Section A.2.c below.
	OAC rule 3745-31-05(C) (synthetic minor to avoid PSD)	PE from stack and fugitive emissions shall not exceed 5.60 tons per year, based on a rolling, 12-month summation of emissions.
	OAC rule 3745-35-07(B) (synthetic minor to avoid Title V)	PM10 from stack and fugitive emissions shall not exceed 1.40 tons per year, based on a rolling, 12-month summation of emissions.
		See Section B.1 below.
	OAC rule 3745-17-07(A)(1)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to 40 CFR Part 60 Subpart DD.
	OAC rule 3745-17-07(B)	See Section A.2.a below.
OAC rule 3745-17-08(B)	See Section A.2.b below.	
OAC rule 3745-17-11(B)(3)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to 40 CFR Part 60 Subpart DD (based on Figure II).	

40 CFR Part 60 Subpart DD

Visible emissions of fugitive dust from grain handling operations shall not exceed 0 percent opacity.

The PE from the baghouse stacks of this emissions units shall not exceed 0.01 grains per dry standard cubic feet (gr/drcf).

Visible PE from the baghouse stacks serving this emission unit shall not exceed 0 percent opacity.

## 2. Additional Terms and Conditions

- 2.a This emissions unit is exempt from the visible particulate fugitive dust emission limitations specified in OAC rule 3745-17-07(B) pursuant to OAC rule 3745-17-07(B)(11)(e).
- 2.b Cargill Ag Horizons is not located within an "Appendix A" area as identified in OAC rule 3745-17-08. Therefore, pursuant to OAC rule 3745-17-08(A), this emissions unit is exempt from the requirements of OAC rule 3745-17-08.
- 2.c "The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the particulate emissions (PE) and PM10 from this air contaminant source since the calculated annual emission rate for PE is less than ten tons per year taking into account the federally enforceable rule limit of 0.01 gr/dscf under 40 CFR Part 60 Subpart DD.

## B. Operational Restrictions

- 1. The maximum annual grain throughput for this emissions unit shall not exceed 47,616,786 bushels (1,333,272 tons) based upon a rolling, 12-month summation of the throughput figures.

The permittee has existing records of the grain throughput for this emissions unit; therefore, the first year of accumulating monthly grain throughput limitations is not necessary.

## C. Monitoring and/or Recordkeeping Requirements

- 1. The permittee shall properly operate and maintain equipment to continuously monitor and record the pressure drop, in inches of water, across the baghouse during operation of this emissions unit, including periods of startup and shutdown. The monitoring equipment shall

be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop, in inches of water, across the baghouse on daily basis.

Whenever the monitored value for the pressure drop deviates from the range specified below, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation: the date and time the deviation began and the magnitude of the deviation at that time, the date(s) the investigation was conducted, the names of the personnel who conducted the investigation, and the findings and recommendations.

In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable range specified below, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken: a description of the corrective action, the date it was completed, the date and time the deviation ended, the total period of time (in minutes) during which there was a deviation, the pressure drop readings immediately after the corrective action, and the names of the personnel who performed the work. Investigation and records required by this paragraph does not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

The acceptable range for the pressure drop across the baghouse shall be based on the manufacturer's specifications until such time as any required emission testing is conducted.

This range is effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the appropriate Ohio EPA District Office or local air agency. The permittee may request revisions to the range based upon information obtained during future particulate emission tests that demonstrate compliance with the allowable particulate emission rate for this emissions unit. In addition, approved revisions to the range will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of a administrative modification.

2. The permittee shall maintain monthly records of the following information:
  - a. the grain throughput in bushels; and
  - b. the rolling, 12-month summation of the grain throughput in bushels.
3. The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the baghouse stacks serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

- a. the color of the emissions;
  - b. the total duration of any visible emission incident; and
  - c. any corrective actions taken to eliminate the visible emissions.
4. The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible emissions of fugitive dust from any egress points (i.e., windows, doors, roof monitors, vents, and access panels etc.) serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
- a. the color of the emissions;
  - b. the total duration of any visible emission incident; and
  - c. any corrective actions taken to eliminate the visible emissions.
5. The permittee shall maintain monthly records of the rolling, 12-month summation of PE and PM10 emissions.

#### **D. Reporting Requirements**

1. The permittee shall submit quarterly reports that identify the following information concerning the operation of the control equipment during operation of this emission unit.
  - a. each period of time when the pressure drop across the baghouse was outside of the range specified by the manufacturer;
  - b. an identification of each incident of deviation described in (a) where a prompt investigation was not conducted;
  - c. an identification of each incident of deviation described in (a) where prompt corrective action, that would bring the pressure drop into compliance with the acceptable range, was determined to be necessary and was not taken; and
  - d. an identification of each incident of deviation described in (a) where proper records were not maintained for the investigation and/or the corrective action.

These quarterly reports shall be submitted (i.e., postmarked) by January 31, April 30, July 31, and October 31 of each year; and each report shall cover the previous calendar quarter.

2. The permittee shall submit quarterly deviation (excursion) reports which identify all exceedances of the rolling, 12-month limitation on grain throughput. These reports shall be submitted in accordance with the reporting requirements specified in Part 1- General Terms and Conditions, Section A of this permit.

3. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the baghouse stacks serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Ohio EPA, Central District Office (CDO) by January 31 and July 31 of each year and shall cover the previous 6-month period.
4. The permittee shall submit semiannual written reports that (a) identify all days during which any visible fugitive particulate emissions were observed from the grain conveyors and any egress points (i.e. windows, doors, roof monitors, vents & access panels etc.) serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible fugitive particulate emissions. These reports shall be submitted to the Ohio EPA, CDO by January 31 and July 31 of each year and shall cover the previous 6-month period.
5. The permittee shall submit quarterly deviation (excursion) reports which identify all exceedances of the rolling, 12-month limitation on PE and PM10 emissions. These reports shall be submitted in accordance with the reporting requirements specified in Part 1-General Terms and Conditions, Section A of this permit.
6. The permittee shall submit annual reports by April 15th that specify the total PE and PM10 emissions from this emissions unit for the previous calendar year. The reporting requirement may be satisfied by including this emission data in the annual fee emission report.

## E. Testing Requirements

1. Compliance with the emission limitations in Section A.1. of these terms and conditions shall be determined in accordance with the following methods:
  - a. Emissions Limitation

The calculated annual emission rate for PE is less than ten tons per year.

Applicable Compliance Method

The calculated annual emission rate was determined by multiplying the hourly emission rates (determined by the calculations below) by the maximum annual number of hours of operation (8760hrs/yr), and dividing by 2000lbs/ton.

Stack Emissions

<u>Source</u>	<u>Max. Throughput</u>	<u>AP-42 Factor (lb/ton)</u>	<u>Capt. Effic.</u>	<u>Bag House Control. Effic</u>	<u>Emissions lb/hr</u>
Dump Pit (Hopper Truck #1 & #2)	152.2 tons/hr	0.035	80%	.99	0.04
Grain Legs & Conveyers	152.2 tons/hr	0.061	100%	.99	0.09
Storage Bins	152.2 tons/hr	0.025	100%	.99	0.04
Blend Bins	152.2 tons/hr	0.025	100%	.99	0.04

**Total Stack Emissions: 0.21 lb PE/hr**

Fugitive Emissions

<u>Source</u>	<u>Max. Throughput</u>	<u>AP-42 Factor (lb PE/ton)</u>	<u>Capt. Effic.</u>	<u>Baghouse Control Effic</u>	<u>Emissions lb PE/hr</u>
Dump Pit #1 & #2)	152.2 tons/hr	0.035	20%	N/A	1.07

Total Stack Emissions (0.21 lbs/hr) + total fugitive emissions (1.07 lbs/hr) = 1.28 lbs PE/hr total emissions.

Emission factors taken from AP-42, 5th Edition, Section 9.9.1, 5/03.

b. Emission Limitation

The calculated annual emission rate for PM10 is less than ten tons per year.

Applicable Compliance Method

The calculated annual emission rate was determined by multiplying the hourly emission rates (determined by the calculations below) by the maximum annual number of hours of operation (8760hrs/yr), and dividing by 2000lbs/ton.

Stack Emissions

<u>Source</u>	<u>Max. Throughput</u>	<u>AP-42 Factor (lb/ton)</u>	<u>Capt. Effic.</u>	<u>Bag House Control. Effic</u>	<u>Emissions lb/hr</u>
Dump Pit (#1 & #2)	152.2 tons/hr	0.0078	80%	.99	0.01
Grain Legs & Conveyers	152.2 tons/hr	0.034	100%	.99	0.05
Storage Bins	152.2 tons/hr	0.0063	100%	.99	0.01
Blend Bins	152.2 tons/hr	0.0063	100%	.99	0.01

**Total Stack Emissions: 0.08 lb PM10/hr**

Fugitive Emissions

<u>Source</u>	<u>Max. Throughput</u>	<u>AP-42 Factor (lb PM10/ton)</u>	<u>Capt. Effic.</u>	<u>Baghouse Control Effic</u>	<u>Emissions lb PE/hr</u>
Dump Pit (#1 & #2)	152.2 tons/hr	0.0078	20%	N/A	0.24

Total Stack Emissions ( 0.08 lbs/hr) + total fugitive emissions ( 0.24 lbs/hr) = 0.32 lbs PM10/hr total emissions.

Emission factors taken from AP-42, 5th Edition, Section 9.9.1, 5/03.

c. Emissions Limitations

PE from stack and fugitive emissions shall not exceed 5.60 tons per year, based on a rolling, 12-month summation of emissions

PM10 from stack and fugitive emissions shall not exceed 1.40 tons per year, based on a rolling, 12-month summation of emissions

Applicable Compliance Method

Compliance with the rolling, 12-month limitation shall be assumed as long as compliance with the maximum grain throughput limitation of 47,616,786 bushels (1,333,272 tons) is maintained as recorded in section C.2 above

d. Emissions Limitation

Visible PE from the baghouse stacks serving this emission unit shall not exceed 0 percent opacity.

Applicable Compliance Method

If required, compliance shall be determined through visible emission observations performed in accordance with 40 CFR Part 60, Appendix A, Method 22.

e. Emission Limitation

Visible emissions of fugitive dust from grain handling operations shall not exceed 0 percent opacity.

Applicable Compliance Method

If required, compliance shall be determined through visible emission observations performed in accordance with 40 CFR Part 60, Appendix A, Method 22.

f. Emission Limitation

The PE from the baghouse stacks of this emissions units shall not exceed 0.01 grains per dry standard cubic feet (gr/drcf).

Applicable Compliance Method

The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

- a. The emission testing shall be conducted within 60 days after achieving the maximum production rate at which the emissions unit will be operated, but not later than 180 days after initial startup of the emissions unit.
- b. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rates for PE in gr/dscf.
- c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):

<u>Pollutant</u>	<u>Test Method</u>	<u>Location</u>
Particulates	Methods 1-5	40 <u>CFR</u> Part 60, Appendix A

Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

- d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency.
- e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).
- f. Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.
- g. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

**F. Miscellaneous Requirements**

None

**PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**

**A. Applicable Emissions Limitations and/or Control Requirements**

- The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
F008 - Zimmerman grain dryer no. 1	OAC rule 3745-31-02(A)	Emissions from the following pollutants shall be less than 10.0 tons per year, based on a rolling, 12-month summation of emissions: Sulfur dioxide (SO <sub>2</sub> ); Nitrogen oxides (NO <sub>x</sub> ); Volatile organic compounds (VOC's); Carbon monoxide (CO); Particulate emissions (PE); and Particulate matter less than 10 microns (PM <sub>10</sub> ).
	OAC rule 3745-31-05(C) (synthetic minor to avoid PSD) OAC rule 3745-35-07(B) (synthetic minor to avoid Title V)	See Section A.2.a below.  Emissions from the combustion of natural gas in grain dryers F008 and F010 combined shall not exceed the following limitations, based on a rolling, 12-month summation:  0.04 ton of SO <sub>2</sub> ; 6.43 tons of NO <sub>x</sub> ; 0.35 ton of VOC; 5.4 tons of CO; 0.36 ton of PE; and 0.12 ton of PM <sub>10</sub> .

	PE from emission units F008 & F010 shall not exceed 8.71 tons per year, based on a rolling, 12-month summation of emissions.
	PM10 from emissions units F008 & F010 shall not exceed 4.62 tons per year, based on a rolling, 12-month summation of emissions.
	See section B.2 and B.3 below.
40 CFR Part 60 Subpart DD	Exempt, column plate perforations are less than 2.4 mm diameter.
OAC rule 3745-17-07(B)	See Section A.2.b below.
OAC rule 3745-17-08(B)	See Section A.2.c below.
OAC rule 3745-21-08(B)	See Section A.2.e below.
OAC rule 3745-23-06(B)	See Section A.2.d below.

**2. Additional Terms and Conditions**

- 2.a** The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the PE, PM10, SO2, NOx, VOC, and CO emissions from this air contaminant source since the calculated annual emission rates are less than 10.0 tons per year taking into account the federally enforceable rule limit of 9.19 tons per year (TPY) of PE and 4.74 TPY of PM10, 0.04 TPY of SO2, 6.43 TPY of NOx, 0.35 TPY of VOC, and 5.40 TPY of CO, per rolling twelve month period under OAC rule 3745-31-05(C) and OAC rule 3745-35-07(B).
- 2.b** This emissions unit is exempt from the visible particulate fugitive dust emission limitations specified in OAC rule 3745-17-07(B) pursuant to OAC rule 3745-17-07(B)(11)(e).
- 2.c** Cargill Ag Horizons is not located within an “Appendix A” area as identified in OAC rule 3745-17-08. Therefore, pursuant to OAC rule 3745-17-08(A), this emissions unit is exempt from the requirements of OAC rule 3745-17-08.

- 2.d** The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rules 3745-23-06(B) by committing to comply with the NO<sub>x</sub> emission limitation in Section A.1.

On February 15, 2005, OAC rule 3745-23-06 was rescinded; therefore, this rule is no longer part of the State regulations. This rule revision was submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Until the U.S. EPA approves the revision to OAC rule 3745-23-06, the requirement to satisfy the "latest available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

- 2.e** The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the CO emission limitation in Section A.1.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revisions occurs and the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

## **B. Operational Restrictions**

1. This emissions unit shall burn only natural gas.
2. The maximum annual natural gas usage for grain dryers F008 and F010 combined shall not exceed 129 million cubic feet (mmcf) per year, based on a rolling, 12-month summation of monthly usage. The permittee has existing records of the natural gas usage for this emissions unit; therefore, the first year of accumulating monthly natural gas usage limitations is not necessary.
3. The maximum annual grain throughput for F008 and F010 combined shall not exceed 6,000,000 bushels (168,000 tons) per year, based on a rolling, 12-month summation of monthly throughput. The permittee has existing records of the grain throughput for this emissions unit; therefore, the first year of accumulating monthly grain throughput limitations is not necessary.

## **C. Monitoring and/or Recordkeeping Requirements**

1. For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type and quantity of the fuel burned in this emissions unit.

2. The permittee shall maintain monthly records of the following information for F008 and F010:
  - a. the natural gas usage in mmcf; and
  - b. the rolling 12-month natural gas usage in mmcf.
3. The permittee shall maintain monthly records of the following information for F008 and F010:
  - a. the grain throughput in bushels; and
  - b. the rolling 12-month grain throughput in bushels.
4. The permittee shall maintain monthly records of the rolling 12-month summation of PE and PM10 emissions.

#### **D. Reporting Requirements**

1. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit. Each report shall include the type and quantity burned and shall be submitted within 30 days after the deviation occurs.
2. The permittee shall submit quarterly deviation (excursion) reports that identify all exceedances of the rolling 12-month summation of the natural gas usage. These reports shall be submitted in accordance with the reporting requirements specified in Part 1 - General Terms and Conditions, Section A of this permit.
3. The permittee shall submit semiannual written reports that (a) identify all days during which any visible emissions of fugitive dust were observed from the egress points (i.e., vents, roof monitors, etc.) serving this emissions unit and (b) describe any corrective actions taken to minimize or eliminate the visible emissions. These reports shall be submitted to the Ohio EPA Central District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month periods.
4. The permittee shall submit quarterly deviation (excursion) reports which identify all exceedances of the rolling, 12-month limitation on grain throughput. These reports shall be submitted in accordance with the reporting requirements specified in Part 1- General Terms and Conditions, Section A of this permit.

5. The permittee shall submit quarterly deviation (excursion) reports which identify all exceedances of the rolling, 12-month limitation on PE and PM10 emissions. These reports shall be submitted in accordance with the reporting requirements specified in Part 1-General Terms and Conditions, Section A of this permit.
6. The permittee shall submit annual reports by April 15th that specify the total PE and PM10 emissions from this emissions unit for the previous calendar year. The reporting requirement may be satisfied by including this emission data in the annual fee emission report.

## E. Testing Requirements

1. Compliance with the emission limitations in Section A.1. of these terms and conditions shall be determined in accordance with the following methods:

- a. Emissions Limitations

Emissions from the following pollutants shall be less than 10.0 tons per year, based on a rolling, 12-month summation of emissions:

SO<sub>2</sub>;  
NO<sub>x</sub>;  
VOCs;  
CO;  
PE; and  
PM<sub>10</sub>.

Applicable Compliance Method:

The permittee may demonstrate compliance with the allowable SO<sub>2</sub>, NO<sub>x</sub>, VOC, and CO limitation above by the compliance method specified in section E.1.b below.

The permittee may demonstrate compliance with the annual allowable PE, and PM<sub>10</sub> limitation above by the compliance methods specified in E.1.b and E.1.c below.

- b. Emission Limitation

Emissions from the combustion of natural gas in grain dryers F008 and F010 combined shall not exceed the following limitations, as a 12-month rolling summation:

0.04 ton of SO<sub>2</sub>  
6.43 tons of NO<sub>x</sub>

0.35 ton of VOC  
5.4 tons of CO  
0.36 ton of PE  
0.12 ton of PM10

Applicable Compliance Method

Compliance with the annual limitations were established by multiplying the actual natural gas usage recorded in Section C.2 above by the emission factors listed below.

<u>Pollutant</u>	<u>Emission Factor *</u>
NOx	100 lbs/mmcf
CO	84 lbs/mmcf
PE	5.7 lbs/mmcf
PM10	1.9 lbs/mmcf
SO2	0.6 lbs/mmcf
VOC	5.5 lbs/mmcf

\*AP-42, Volume I, Fifth Edition, Section 1.4, " Natural Gas Combustion", Table 1.4-2, July 1998.

c. Emission Limitations

PE from emission units F008 & F010 shall not exceed 8.71 tons per year, based on a rolling, 12-month summation of emissions.

PM10 from emissions units F008 & F010 shall not exceed 4.62 tons per year, based on a rolling, 12-month summation of emissions.

Applicable Compliance Method

Compliance with the rolling 12-month limitations may be determined by multiplying the actual grain throughput limitations recorded in section C.4 above by the PE and PM10 emission factors below and a 25 percent engineering safety factor:

<u>Emission Factor:</u>	<u>Source:</u>
0.083 lbs of PE/Ton of Grain	Manufacturer Supplied Testing Data (Zimmerman)*
0.055 lbs of PM10 /Ton of Grain	AP-42, 5th Edition, Section 9.9.1-1, March, 2003.

**Cargill AgHorizons**

**PTI Application: 01-01343**

**Issued: To be entered upon final issuance**

**Facility ID: 0124000088**

**Emissions Unit ID: F008**

\* Supplied by Cargill with the permit to install application received by the Ohio EPA, Central District Office.

**F. Miscellaneous Requirements**

None

**PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**

**A. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
F009 - shipping & loadout spouts to truck and rail	OAC rule 3745-17-07(B)	See section A.2.b below.
	OAC rule 3745-17-08(B)	See section A.2.c below.
	OAC rule 3745-17-11(B)(3)	See section A.2.a below.
	40CFR Part 60 Subpart DD	Visible emissions of fugitive dust from railcar loadout spouts shall not exceed 5% opacity.
	ORC 3704.03(T)(4)	Visible emissions of fugitive dust from truck loadout spouts to truck and rail shall not exceed 10 % opacity.
	ORC 3704.03(T)(4)	See section A.2.d below.

**2. Additional Terms and Conditions**

- 2.a The emission limitations in Figure II do not apply to this emissions unit because the uncontrolled mass rate of emissions is less than 10 lbs/hour. The emission limitations in Table 1 do not apply to this emissions unit because it is located in Fayette County which is exempt pursuant to OAC rule 3745-17-11(A)(2)(b)(ii).
- 2.b This emissions unit is exempt from the visible particulate fugitive dust emission limitations specified in OAC rule 3745-17-07(B) pursuant to OAC rule 3745-17-07(B)(11)(e).

- 2.c Cargill Ag Horizons is not located within an “Appendix A” area as identified in OAC rule 3745-17-08. Therefore, pursuant to OAC rule 3745-17-08(A), this emissions unit is exempt from the requirements of OAC rule 3745-17-08.
- 2.d The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the PE and PM10 emissions from this air contaminant source since the uncontrolled potential to emit for PE and PM10 is less than ten tons per year.

The potential to emit for this emissions unit is calculated to be 1.93 tons per year (TPY) of PE and 0.31 TPY of PM10 based on the following equation found in AP-42 Table 9.9.1, 5/03 :

**Fugitive Grain Emissions (PM) from Truck Shipping:**

			AP42m (lb/ton)		Control	PM10
Max. Throughput ton / hr	*	Uncontrolled	* Emission Factor	*	Equip. Eff.	= lb/hr
1.6 ton/hr	*	100%	(.086)	*	(0.0)	= 0.14 lb/hr
PM Emission lb / hr	*	Hrs / Yr	/	lbs/ton		TPY
0.14 lb/ hr	*	8760 hrs / yr	/	2000lbs / ton		= 0.61

**Fugitive Grain Emissions (PM) from Rail Shipping:**

			AP42m (lb/ton)		Control	PM10
Max. Throughput ton / hr	*	Uncontrolled	* Emission Factor	*	Equip. Eff.	= lb/hr
11.19 ton / hr	*	100%	(.027)	*	(0.0)	= 0.30 lb/hr
PM Emission lb / hr	*	Hrs / Yr	/	lbs/ton		TPY
0.30 lb/ hr	*	8760 hrs / yr	/	2000lbs / ton		= 1.31 TPY

**Total Fugitive Emissions of PM in lbs/hr from Truck and Rail Shipping = 0.44 lb/hr**

**Total Fugitive Emissions of PM in TPY from Truck and Rail Shipping = 1.93 TPY**

**Fugitive Grain Emissions (PM10) from Truck Shipping:**

			AP42m		Control	PM
Max Throughput Ton/hr	*	Uncontrolled	* Emission Factor	*	Equip. Eff.	= lb/hr
1.6 ton/hr	*	100%	(.029)	*	(0.0)	= 0.05 lb
PM10 Emission lb / hr	*	Hrs / Yr	/	lbs/ton		TPY
0.05 lb/ hr	*	8760 hrs / yr	/	2000lbs / ton		= 0.22

**Fugitive Grain Emissions (PM10) from Rail Shipping:**

			AP42m_____	Control	PM		
<u>Max. Throughput Ton/hr</u>	*	<u>Uncontrolled</u>	*	<u>Emission Factor</u>	*	<u>Equip. Eff.</u>	= <u>Ib/hr</u>
11.19 ton/hr	*	100%	*	(.002)		(0.0)	= 0.02 lb
<u>PM10 Emission Ib / hr</u>	*	<u>Hrs / Yr</u>	/	<u>Ibs/ton</u>		<u>TPY</u>	
0.02 lb/ hr	*	8760 hrs / yr	/	2000lbs / ton		=	0.09

**Total Fugitive Emissions of PM10 in lbs/hr from Truck and Rail Shipping = 0.07 lb/hr**

**Total Fugitive Emissions of PM10 in TPY from Truck and Rail Shipping = 0.31 TPY**

**B. Operational Restrictions**

None

**C. Monitoring and/or Recordkeeping Requirements**

1. The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible emissions of fugitive dust from the railcar and truckloading operations serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
  - a. the location and color of the emissions;
  - b. whether the emissions are representative of normal operations;
  - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
  - d. the total duration of any visible emission incident; and
  - e. any corrective actions taken to minimize or eliminate the visible emissions.

If visible emissions are present, a visible emission incident has occurred. The observer does not have to document the exact start and end times for the visible emission incident under item (d) above or continue the daily check until the incident has ended. The observer may indicate that the visible emission incident was continuous during the observation period (or, if known, continuous during the operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

#### D. Reporting Requirements

1. The permittee shall submit semiannual written reports that (a) identify all days during which any visible emissions of fugitive dust were observed from the railcar and truckloading operations serving this emissions unit and (b) describe any corrective actions taken to minimize or eliminate the visible emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month periods.

#### E. Testing Requirements

1. Compliance with the emission limitation(s) in Section A.1. of these terms and conditions shall be determined in accordance with the following method(s):

- a. Emission Limitation:

Visible emissions of fugitive dust from railcar loadout spouts shall not exceed 5% opacity.

Applicable Compliance Method:

If required, compliance shall be determined through visible emission observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

- b. Emission Limitation:

Visible emissions of fugitive dust from truck loadout spouts to truck and rail shall not exceed 10 % opacity.

Applicable Compliance Method:

If required, compliance shall be determined through visible emission observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

#### F. Miscellaneous Requirements

None

**PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**

**A. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
F010 - Zimmerman grain dryer no. 2	OAC rule 3745-31-02(A)	Emissions from the following pollutants shall be less than 10.0 tons per year, based on a rolling, 12-month summation of emissions: Sulfur dioxide (SO <sub>2</sub> ); Nitrogen oxides (NO <sub>x</sub> ); Volatile organic compounds (VOC's); Carbon monoxide (CO); Particulate emissions (PE); and Particulate matter less than 10 microns (PM <sub>10</sub> ).
	OAC rule 3745-31-05(C) (synthetic minor to avoid PSD) OAC rule 3745-35-07(B) (synthetic minor to avoid Title V)	See section A.2.a below.  Emissions from the combustion of natural gas in grain dryers F008 and F010 combined shall not exceed the following limitations, based on a rolling, 12-month summation:  0.04 ton of SO <sub>2</sub> ; 6.43 tons of NO <sub>x</sub> ; 0.35 ton of VOC; 5.4 tons of CO; 0.36 ton of PE; and 0.12 ton of PM <sub>10</sub> .

	PE from emission units F008 & F010 shall not exceed 8.71 tons per year, based on a rolling, 12-month summation of emissions.
	PM10 from emissions units F008 & F010 shall not exceed 4.62 tons per year, based on a rolling, 12-month summation of emissions.
	See Sections B.2 and B.3 below.
40 CFR Part 60 Subpart DD	Exempt, column plate perforations are less than 2.4 mm diameter.
OAC rule 3745-17-07(B)	See Section A.2.b below.
OAC rule 3745-17-08(B)	See Section A.2.c below.
OAC rule 3745-21-08(B)	See Section A.2.e below.
OAC rule 3745-23-06(B)	See Section A.2.d below.

## 2. Additional Terms and Conditions

- 2.a** The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the PE, PM10, SO<sub>2</sub>, NO<sub>x</sub>, VOC, and CO emissions from this air contaminant source since the calculated annual emission rates are less than 10.0 tons per year taking into account the federally enforceable rule limit of 9.19 tons per year (TPY) of PE and 4.74 TPY of PM10, 0.04 TPY of SO<sub>2</sub>, 6.43 TPY of NO<sub>x</sub>, 0.35 TPY of VOC, and 5.40 TPY of CO, per rolling twelve month period under OAC rule 3745-31-05(C) and OAC rule 3745-35-07(B).
- 2.b** This emissions unit is exempt from the visible particulate fugitive dust emission limitations specified in OAC rule 3745-17-07(B) pursuant to OAC rule 3745-17-07(B)(11)(e).
- 2.c** Cargill Ag Horizons is not located within an "Appendix A" area as identified in OAC rule 3745-17-08. Therefore, pursuant to OAC rule 3745-17-08(A), this emissions unit is exempt from the requirements of OAC rule 3745-17-08.

- 2.d** The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rules 3745-23-06(B) by committing to comply with the NOx emission limitation in Section A.1.

On February 15, 2005, OAC rule 3745-23-06 was rescinded; therefore, this rule is no longer part of the State regulations. This rule revision was submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Until the U.S. EPA approves the revision to OAC rule 3745-23-06, the requirement to satisfy the "latest available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

- 2.e** The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the CO emission limitation in Section A.1.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revisions occurs and the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

## **B. Operational Restrictions**

1. This emissions unit shall burn only natural gas.
2. The maximum annual natural gas usage for grain dryers F008 and F010 combined shall not exceed 129 million cubic feet (mmcf) per year, based on a rolling, 12-month summation of monthly usage. The permittee has existing records of the natural gas usage for this emissions unit; therefore, the first year of accumulating monthly natural gas usage limitations is not necessary.
3. The maximum annual grain throughput for F008 and F010 combined shall not exceed 6,000,000 bushels ( 168,000 tons) per year, based on a rolling, 12-month summation of monthly throughput. The permittee has existing records of the grain throughput for this emissions unit; therefore, the first year of accumulating monthly grain throughput limitations is not necessary.

**C. Monitoring and/or Recordkeeping Requirements**

1. For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type and quantity of the fuel burned in this emissions unit.
2. The permittee shall maintain monthly records of the following information for F008 and F010:
  - a. the natural gas usage in mmcf; and
  - b. the rolling 12-month natural gas usage in mmcf.
3. The permittee shall maintain monthly records of the following information for F008 and F010:
  - a. the grain throughput in bushels; and
  - b. the rolling 12-month grain throughput in bushels.
4. The permittee shall maintain monthly records of the rolling 12-month summation of PE and PM10 emissions.

**D. Reporting Requirements**

1. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit. Each report shall include the type and quantity burned and shall be submitted within 30 days after the deviation occurs.
2. The permittee shall submit quarterly deviation (excursion) reports that identify all exceedances of the rolling 12-month summation of the natural gas usage. These reports shall be submitted in accordance with the reporting requirements specified in Part 1 - General Terms and Conditions, Section A of this permit.
3. The permittee shall submit semiannual written reports that (a) identify all days during which any visible emissions of fugitive dust were observed from the egress points (i.e., vents, roof monitors, etc.) serving this emissions unit and (b) describe any corrective actions taken to minimize or eliminate the visible emissions. These reports shall be submitted to the Ohio EPA Central District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month periods.

4. The permittee shall submit quarterly deviation (excursion) reports which identify all exceedances of the rolling, 12-month limitation on grain throughput. These reports shall be submitted in accordance with the reporting requirements specified in Part 1- General Terms and Conditions, Section A of this permit.
5. The permittee shall submit quarterly deviation (excursion) reports which identify all exceedances of the rolling, 12-month limitation on PE and PM10 emissions. These reports shall be submitted in accordance with the reporting requirements specified in Part 1- General Terms and Conditions, Section A of this permit.
6. The permittee shall submit annual reports by April 15th that specify the total PE and PM10 emissions from this emissions unit for the previous calendar year. The reporting requirement may be satisfied by including this emission data in the annual fee emission report.

## E. Testing Requirements

1. Compliance with the emission limitations in Section A.1. of these terms and conditions shall be determined in accordance with the following methods:

- a. Emissions Limitations

Emissions from the following pollutants shall be less than 10.0 tons per year, based on a rolling, 12-month summation of emissions:

SO<sub>2</sub>;  
NO<sub>x</sub>;  
VOCs;  
CO;  
PE; and  
PM<sub>10</sub>.

Applicable Compliance Method:

The permittee may demonstrate compliance with the allowable SO<sub>2</sub>, NO<sub>x</sub>, VOC, and CO limitation above by the compliance method specified in section E.1.b below.

The permittee may demonstrate compliance with the annual allowable PE, and PM<sub>10</sub> limitation above by the compliance methods specified in E.1.b and E.1.c below.

b. Emission Limitation

Emissions from the combustion of natural gas in grain dryers F008 and F010 combined shall not exceed the following limitations, as a 12-month rolling summation:

- 0.04 ton of SO<sub>2</sub>
- 6.43 tons of NO<sub>x</sub>
- 0.35 ton of VOC
- 5.4 tons of CO
- 0.36 ton of PE
- 0.12 ton of PM<sub>10</sub>

Applicable Compliance Method

Compliance with the annual limitations were established by multiplying the actual natural gas usage recorded in Section C.2 above by the emission factors listed below.

<u>Pollutant</u>	<u>Emission Factor *</u>
NO <sub>x</sub>	100 lbs/mmcf
CO	84 lbs/mmcf
PE	5.7 lbs/mmcf
PM <sub>10</sub>	1.9 lbs/mmcf
SO <sub>2</sub>	0.6 lbs/mmcf
VOC	5.5 lbs/mmcf

\*AP-42, Volume I, Fifth Edition, Section 1.4, " Natural Gas Combustion", Table 1.4-2, July 1998.

c. Emission Limitations

PE from emission units F008 & F010 shall not exceed 8.71 tons per year, based on a rolling, 12-month summation of emissions.

PM<sub>10</sub> from emissions units F008 & F010 shall not exceed 4.62 tons per year, based on a rolling, 12-month summation of emissions.

Applicable Compliance Method

Compliance with the rolling 12-month limitations may be determined by multiplying the actual grain throughput limitations recorded in section C.4 above by the PE and PM<sub>10</sub> emission factors below and a 25 percent engineering safety factor:

**Cargill AgHorizons**

**PTI Application: 01-01343**

**Issued: To be entered upon final issuance**

**Facility ID: 0124000088**

**Emissions Unit ID: F010**

Emission Factor:

0.083 lbs of PE/Ton of Grain

Source:

Manufacturer Supplied Testing Data  
(Zimmerman)\*

0.055 lbs of PM10 /Ton of Grain

AP-42, 5th Edition, Section 9.9.1-1,  
March, 2003.

\* Supplied by Cargill with the permit to install application received by the Ohio EPA,  
Central District Office.

**F. Miscellaneous Requirements**

None

**PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**

**A. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
F011 - Storage piles, including load-in, load-out and wind erosion	OAC rule 3745-17-07(B)	See Section A.2.b below.
	OAC rule 3745-17-08(B)	See Section A.2.c below.
	ORC 3704.03(T)(4)	See Section A.2.a below

**2. Additional Terms and Conditions**

- 2.a The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the PE and PM10 emissions from this air contaminant source since the uncontrolled potential to emit for PE and PM10 is less than ten tons per year.

The potential to emit for this emissions unit is calculated to be 3.83 tons per year (TPY) of fugitive PE and 3.15 TPY of fugitive PM10 based on the following equation found in AP-42, Fifth Edition, Volume 1 (revised 1/95), for load-in operations, load-out operations, and wind erosion:

Load-In / Load Out

$$E = \frac{k * (0.0032 * (U/5)^{1.3}}{(M/2)^{1.4}}$$

$$E = .74 (0.0032)[(12/5)^{1.3} / 5/2^{1.4}]$$

$$(0.0024) [ (3.12) / (3.61)]$$

$$(0.0024) (.865) = 0.0021 \text{ lb/ton of PE or } 2.05E-03$$

$$0.0020 \text{ lb/ton } (1,333,272 \text{ ton/yr}) / 2000 = 1.33 \text{ TPY}$$

Where:

E = emission factor (lb/ton)

k = particle size multiplier (dimension less) (0.74)

U = mean wind speed, (mph) (12.0 mph)

M = worst case material moisture content (5.0 %)

<u>Factor</u>	<u>Description</u>	<u>PM Value</u>	<u>PM10 Value</u>
E	Emission Factor	2.05E-03	9.69E-04
k	Part. Size Multiplier	0.74	0.35
U	mean wind speed	12.0	12.0
M	material moisture cont.	5.0	5.0

\*Emission factor source=AP-42 5th Edition Chapter 13.2.4 Equation 1 for active storage piles.

Throughput: 1,333,272 ton/yr

PE Emissions = 0.0020 lb/ton \* 1,333,272 ton/year \* 1 ton/2,000lb = 1.33 ton/yr

PM10 Emissions = .00097 lb/ton \* 1,333,272 ton / year \* 1 ton/2000 lb = 0.65 ton/yr

### Wind Erosion

$$E = (1.7)(s/1.5)[365-p] / 235] (f/15)$$

E = 10.42 lbs PE/day/acre

Annual PE emissions, in tons = [(E, in lbs/day/acre) (days/year) (SA, in acres)] / 2000 lbs

(10.42 lbs PE/day/acre) x (365 days/year) x (1.32 acres) = 2.50 tons PE/year

Where:

E = Emission factor for particulate emissions, in lbs/day/acre

s = Silt content of the stored material (worst case estimate) (10%)

p = Number of days > 0.01 inch precipitation (Columbus station) (165 days)

f = Percent of time winds exceed 12 mph (Columbus station) (16.2%)

SA = Total surface area of storage piles (1.32 acres, assuming maximum pile size of 300 feet diameter, 60 feet high)

Emission factor= US EPA reference document Fugitive Dust Background Document and Technical Information Document for Best Available Technology, Section 2.3.1.3.3. for Wind Erosion from Continuously Active Piles (9/92).

No emission factor is provided for PM10, therefore, for the wind erosion emissions all PE shall be considered PM10.

- 2.b** This emissions unit is exempt from the visible particulate fugitive dust emission limitations specified in OAC rule 3745-17-07(B) pursuant to OAC rule 3745-17-07(B)(11)(e).

- 2.c** Cargill Ag Horizons is not located within an “Appendix A” area as identified in OAC rule 3745-17-08. Therefore, pursuant to OAC rule 3745-17-08(A), this emissions unit is exempt from the requirements of OAC rule 3745-17-08.

**B. Operational Restrictions**

None

**C. Monitoring and/or Recordkeeping Requirements**

1. Except as otherwise provided in this section, the permittee shall perform inspections of each load-in operation at each storage pile in accordance with the following frequencies:

storage pile identification	minimum load-in inspection frequency
all	daily

2. Except as otherwise provided in this section, the permittee shall perform inspections of each load-out operation at each storage pile in accordance with the following frequencies:

storage pile identification	minimum load-out inspection frequency
all	daily

3. Except as otherwise provided in this section, the permittee shall perform inspections of the wind erosion from pile surfaces associated with each storage pile in accordance with the following frequencies:

storage pile identification	minimum wind erosion inspection frequency
all	daily

4. No inspection shall be necessary for wind erosion from the surface of a storage pile when the pile is covered with snow and/or ice and for any storage pile activity if precipitation has occurred that is sufficient for that day to ensure compliance with the above-mentioned applicable requirements. Any required inspection that is not performed due to any of the above identified events shall be performed as soon as such event(s) has (have) ended, except if the next required inspection is within one week.

5. The purpose of the inspections is to determine the need for implementing the control measures specified in this permit for load-in and load-out of a storage pile, and wind

erosion from the surface of a storage pile. The inspections shall be performed during representative, normal storage pile operating conditions.

6. The permittee shall maintain records of the following information:
  - a. the date and reason any required inspection was not performed, including those inspections that were not performed due to snow and/or ice cover or precipitation;
  - b. the date of each inspection where it was determined by the permittee that it was necessary to implement the control measures;
  - c. the dates the control measures were implemented; and
  - d. on a calendar quarter basis, the total number of days the control measures were implemented and, for wind erosion from pile surfaces, the total number of days where snow and/or ice cover or precipitation were sufficient to not require the control measure(s).

The information required in 6.d. shall be kept separately for (i) the load-in operations, (ii) the load-out operations, and (iii) the pile surfaces (wind erosion), and shall be updated on a calendar quarter basis within 30 days after the end of each calendar quarter.

#### **D. Reporting Requirements**

1. The permittee shall submit quarterly deviation reports that identify any of the following occurrences:
  - a. each day during which an inspection was not performed by the required frequency, excluding an inspection which was not performed due to an exemption for snow and/or ice cover or precipitation; and
  - b. each instance when a control measure, that was to be implemented as a result of an inspection, was not implemented.
2. The deviation reports shall be submitted in accordance with the reporting requirements of the General Terms and Conditions of this permit.

#### **E. Testing Requirements**

None

#### **F. Miscellaneous Requirements**

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**Cargill AgHorizons**

**PTI Application: 01-01343**

**Issued: To be entered upon final issuance**

**Facility ID: 0124000088**

**Emissions Unit ID: F011**

None

**PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**

**A. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
F013 - paved roadways and parking areas	OAC rule 3745-31-02(A)	Particulate emissions (PE) shall be less than 10.0 tons per rolling, 12-month period.
	OAC rule 3745-17-07(B)	See Section A.2.a below.
	OAC rule 3745-17-08(B)	See Section A.2.b below.
		See Section A.2.c below.

**2. Additional Terms and Conditions**

- 2.a Permit to Install 01-01343 for this air contaminant source takes into account the following voluntary restrictions (including the use of any applicable air pollution control equipment) as proposed by the permittee for the purpose of avoiding Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3):
  - i. To treat the unpaved and paved roadways and parking areas with water at sufficient treatment frequencies to ensure controlled potential particulate emissions less than 10.0 tons per year.
- 2.b This emissions unit is exempt from the visible particulate emission limitations specified in OAC rule 3745-17-07(B) pursuant to OAC rule 3745-17-07(B)(11)(e).
- 2.c Cargill AgHorizons, Bloomingburg is not located within an "Appendix A" area as identified in OAC rule 3745-17-08. Therefore, pursuant to OAC rule 3745-17-08(A), this emissions unit is exempt from the requirements of OAC rule 3745-17-08(B).

**B. Operational Restrictions**

None

**C. Monitoring and/or Recordkeeping Requirements**

1. Except as otherwise provided in this section, the permittee shall perform inspections of each of the roadway segments and parking areas in accordance with the following frequencies:

paved roadways and parking areas minimum inspection frequency

all paved roadways/parking areas at least once during each day of operation

2. The purpose of the inspections is to determine the need for implementing the above-mentioned control measures. The inspections shall be performed during representative, normal traffic conditions. No inspection shall be necessary for a roadway or parking area that is covered with snow and/or ice or if precipitation has occurred that is sufficient for that day to ensure compliance with the above-mentioned applicable requirements. Any required inspection that is not performed due to any of the above-identified events shall be performed as soon as such event(s) has (have) ended, except if the next required inspection is within one week.
3. The permittee may, upon receipt of written approval from the Ohio EPA, Central District Office (CDO), modify the above-mentioned inspection frequencies if operating experience indicates that less frequent inspections would be sufficient to ensure compliance with the above-mentioned applicable requirements.
4. The permittee shall maintain records of the following information:
  - a. the date and reason any required inspection was not performed, including those inspections that were not performed due to snow and/or ice cover or precipitation;
  - b. the date of each inspection where it was determined by the permittee that it was necessary to implement the control measures;
  - c. the dates the control measures were implemented; and
  - d. on a calendar quarter basis, the total number of days the control measures were implemented and the total number of days where snow and/or ice cover or precipitation were sufficient to not require the control measures.

## D. Reporting Requirements

1. In accordance with the General Terms and Conditions of this permit, the permittee shall submit deviation (excursion) reports that identify any of the following occurrences:
  - a. each day during which an inspection was not performed by the required frequency, excluding an inspection which was not performed due to an exemption for snow and/or ice cover or precipitation; and
  - b. each instance when a control measure, that was to be implemented as a result of an inspection, was not implemented.

## E. Testing Requirements

1. Compliance with the emissions limitations in Section A.1 of these terms and conditions shall be determined in accordance with the following methods:
  - a. Emission Limitation  
PE shall be less than 10.0 tons per rolling, 12-month period.

### Applicable Compliance Method

The permittee may demonstrate compliance with the annual allowable PE limitation stated above for paved roadways and parking areas through the calculations in AP-42 section 13.2.1-2 (December, 2003) listed below. Compliance has been demonstrated using inputs representing Potential To Emit (PTE) conditions as follows:

$$E = [k(sL/2)^{0.65} (W/3)^{1.5} - C](1-P/4N)$$

### PE

where

E= size-specific emission factor (lb PE/vehicle mile traveled (VMT))

k= particle size multiplier= 0.082

sL= silt content of road surface material (g/m<sup>2</sup>)= 0.40 g/m<sup>2</sup>

W= mean vehicle weight (tons)= 27

C= emission factor for 1980s vehicle fleet exhaust, brake wear and tire wear= 0.0005 lb/VMT

P= number of wet days per averaging period with at least 0.01 inches of precipitation= 120

N= number of days per averaging period= 365

Using the values in the above equations, the PE factors were used to calculate emissions as follows:

E (paved)= 0.70 lb PE/VMT

To calculate the allowable emissions, multiply the emission factor by VMT/yr (26,994), to obtain the annual PE rates:

Total PE= (0.70 lb/VMT)x(26,994 VMT/yr)/(2000lbs/ton)= 9.45 TPY

### PM10

where

E= size-specific emission factor (lb PE/vehicle mile traveled (VMT)

k= particle size multiplier= 0.016

sL= silt content of road surface material (g/m<sup>2</sup>)= 0.40 g/m<sup>2</sup>

W= mean vehicle weight (tons)= 27

C= emission factor for 1980s vehicle fleet exhaust, brake wear and tire wear= 0.0005 lb/VMT

P= number of wet days per averaging period with at least 0.01 inches of precipitation= 120

N= number of days per averaging period= 365

Using the values in the above equations, the PE factors were used to calculate emissions as follows:

E (paved)= 0.17 lb PM10/VMT

To calculate the allowable emissions, multiply the emission factor by VMT/yr (26,994), to obtain the annual PE rates:

Total PM10= (0.17 lb/VMT)x(26,994 VMT/yr)/(2000lbs/ton)= 2.29 TPY

## **F. Miscellaneous Requirements**

None